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Effects of *Rutilus kutum* mortality in gillnet on the quality and shelf life during refrigerated storage

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Abstract

In this study, the effects of death of Kutum (*Rutilus kutum*) were investigated in gillnet on the quality and durability life during refrigeration storage. This study was performed to determine two treatments of live fish caught (choking in the air), and treatment of dead fish caught (death in water) in 30 samples by gillnet. Evaluation of physical and chemical index changes of fish including: total moisture, water holding capacity (WHC), pH, thiobarbituric acid (TBA), total volatile nitrogen bases (TVB-N) and free fatty acid(FFA), and microbiological characteristics including total viable count (TVC) and psychrotrophic count (PTC) was conducted during a period of 12 days refrigeration storage (4±1 °C). The results showed that the amounts of WHC, pH, TVB-N, FFA, TBA, and TVC had a significant difference ($P<0/05$) between two treatments which in the treatment of dead fish caught was significantly more than live fish caught and only moisture and psychrophilic bacteria were no significant differences between two treatments. The relative acceptability of live fish caught was maintained until the 12 day, but in the dead fish caught due to factors TVB-N was evaluated on the 6 day unusable and TVC on the 12 day. Being significant differences between two treatments in most of the above parameters can indicate expansion of autolytic activity, changes in protein systems and spoilage in dead fish caught.

Keywords: Kutum (*Rutilus kutum*), Quality, Mortality of fish, Gillnet

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